



To: Tom Benz	From: Jim Buckley
Co: Chem	Emelle
Dept: Enrac	Phone: 203-652-9721
Fax: 314-487-8733	Fax: 203-652-8102

TO: Tom Benz
 FROM: Jim Buckley
 DATE: June 5, 1990
 RE: Monsanto Proposal
 Dead Creek - Sector B

Emelle: Technical Mgr

Germano

47

Based on a review of the background data and analytical data submitted, I offer the following observations:

1. PCB contamination is evident throughout the creek bed as found in 3 separate sampling events.
2. Heavy metal concentrations in many cases exceed EP Tox or TC "calculated" thresholds.
3. Other halogenated organic compounds present in soil besides PCB's include:

Dichlorobenzenes	(X125, P1, SD1)
Dichlorophenols	(X125, SD1)
Trichlorobenze	(X125, P1, SD1, SD2)
Methylene Chloride	(S07, S010, R012)
Pentachlorophenol	(SD1, SD3)
Tetrachlorobenzenes	(SD1)
2, Chlorophenol	(SD1)
Hexachlorobenzene	(SD2)
2,3,7,8 Tetrachloro-dibenzo-p-dioxin	

4. For purposes of classification, no knowledge of process is imparted or implied, therefore a specific source (K waste) or non-specific source waste (F waste) is not determinable and no discussion of spills of listed wastes (U, P) is read in the assessment.

More knowledge of the processes entering the creek should be explored before determining that the soils, when excavated, would be non-listed.

MCO 0706800



5. As indicated earlier, the high metal concentration would lead one to think the soils would be possibly classed as RCRA Hazardous - EP Toxic (See 40 CFR 261.24 for possible As, Ba, Cd, Cr, Pb, Hg and Ag).

This is based on the calculation of total concentration divided by a factor of 20. This approach has been accepted by IEPA in determining applicability of characteristic listing (D004-D017).

However, based on ground water analysis it does not appear the metals are in a leachable form. This is evident based on the relatively low concentrations found in water.

6. Some of the sample locations indicate high concentration of PCB's (HOC's) and heavy metals which could potentially classify the soil as a California List Waste requiring incineration. The combination of hazardous waste (characteristic for metals) and HOC's > 1000 ppm would qualify as an incinerable - specifically PCB incineration (See 40 CFR 268.32 d.1 and 40 CFR 268.42 a.2).

Recommendations

1. Further classification via analysis and further background information is required for me to determine suitability for landfill disposal.
 - a. Run toxicity characteristic "TC" metals and run "TC" organics also. (The organics portion will be applicable 9/25/90 and if organic exceeds threshold value, then waste may be hazardous by characteristic.) See attachment.
 - b. Further investigate background of Dead Creek in order to classify under National Contingency Plan criteria.
2. The sampling for dioxins must be evaluated as to applicability to Corporate acceptance criteria of 1 ppb, 2, 3, 7, 8 TCDD. The fact that TCDD is present above detection limits raises my concerns. I must be assured, through sampling and analysis, that Corporate policies are not compromised.
3. If soils are considered non-regulated then they may be disposed of at Emelle as PCB waste. A comprehensive sampling and analysis plan should be developed in order to adequately classify waste soils upon removal.

MCO 0706801



4. If determined to be EP toxic for metals and total HOC's do not exceed or equal 1000 ppm, Emelle may offer stabilization then landfill or the stabilization of metals may take place in-situ or via on-site process prior to shipment.
5. As you can see the LDR, BDAT, Drop Dead Dates questions all hinge on waste classification issues. Segregation may definitely be a possibility similar to a job happening in the eastern region where some material is suitable for landfill and other materials must go to incineration from the same job.
6. Pending restrictions are (1) TC rule for characteristic determination effective 9/25/90. (2) August 8, 1990 variance expiration for characteristic metal wastes treatment standards. (3) Out-of-state disposal tax effective 7/15/90. (4) Possible classification as a smelting waste (Cerro Copper) i.e. K064.
7. *may an opinion* ~~Overall assessment of Dead Creek in perspective appears to be an on-site remediation project involving on-site technologies such as XTRAX or PYROX.~~

I appreciate the opportunity to review the project and look forward to assisting you and Monsanto in any way I can.

/11b

Attachment

MCO 0706802

Table IV.3--Toxicity Characteristic Constituents
and Regulatory Levels

EPA HW Number	Constituent	CAS Number	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0 ^a
D024	m-Cresol	108-39-4	200.0 ^a
D025	p-Cresol	106-44-5	200.0 ^a
D026	Cresol		200.0 ^a
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13 ^j
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its hydroxide)	76-44-8	0.003 ^j
D032	Hexachlorobenzene	118-74-1	0.13 ^j
D033	Hexachloro-1,3-butadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0 ^j
D038	Pyridine	110-86-1	5.0 ^j
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0

MCO 0706803

178

Table IV.3--Toxicity Characteristic Constituents
and Regulatory Levels (continued)

EPA HW Number ¹	Constituent	CAS Number ²	Regulatory Level (mg/L)
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

¹ Hazardous waste number.

² Chemical abstracts service number.

³ Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

⁴ If o,c-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level for total cresol is 200 mg/l.

MCO 0706804